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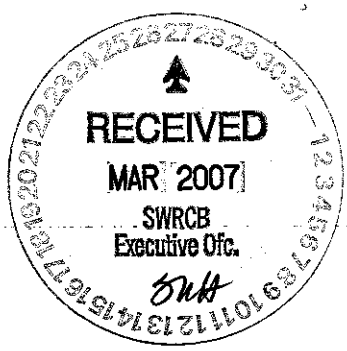
3/20/07 BdWkshp Item 8
Water Recycling
Deadline: 3/27/07 5 pm



TO: Ms. Tam M. Doduc, Chair
State Water Resources Control Board
P.O. Box 100
Sacramento, CA 95812-0100

Attention: Song Her, Clerk to the Board

FROM: Arthur L. Coe
Assistant Executive Officer
SAN DIEGO REGIONAL WATER QUALITY CONTROL BOARD

DATE: March 27, 2007

SUBJECT: WORKSHOP REGARDING DEVELOPMENT OF A STATEWIDE WATER RECYCLING POLICY - COMMENTS ON ISSUES

Thank you for the opportunity to comment on this important matter. We concur with the staff recommendation to pursue development of a statewide Water Recycling Policy. As policy development moves forward we urge that the regional boards be fully involved to insure a final product consistent with optimizing the protection of beneficial uses throughout the State. We offer the following comments.

As a matter of housekeeping and efficiency, any new policy should be developed in recognition of what has transpired in the past. There are numerous existing State Board issued documents that address or impact water recycling or its illustrious predecessor "reclamation." For example there are policies (Resolution No. 77-1 and Resolution 68-16), precedental decisions (Rancho Caballero for one) and numerous guidance memoranda (February 24, 2004, "Incidental Runoff of Recycled Water," for one) that have been issued over the years. Wherever possible the elements of these past policies, decisions and guidance memoranda should be incorporated into any policy that is adopted so that it serves as a "one stop" source of information for the regional boards as they regulate water recycling projects. Also as a housekeeping matter, any of these past documents that are made redundant by a new policy should be rescinded or otherwise made to go away.

Based on the descriptive information for the issues identified in the Workshop notice materials it appears that the distinction between "Policy" and "Plan" may be blurred. We suggest that both are needed, a "Policy" and an accompanying "Implementation

Plan." Regardless of what the document is titled, issues that can be addressed on a statewide basis vs. issues that must be addressed on a region-wide basis must be carefully considered. In general, any determinations of requirements necessary to protect beneficial uses or prevent degradation of water quality should remain in the purview of the regional boards.

Our comments related to the various issues identified by your staff follow.

Irrigation Projects and Salts

In the San Diego Region there are actually two issues involving salinity of recycled water: (1) the need to provide recycled water of a quality suitable for the intended use; and, (2) the impacts of the recycled water on the eventual receiving waters.

Water supplies in the San Diego Region are generally more saline than in other areas of California. The problem is exacerbated with the high usage of on-site regenerated water softeners which contribute to our recycled water generally containing between 30% and 50% more salinity than the source water, with some agencies having increments in excess of 100%. Studies conducted in the San Diego Region have shown a measurable reduction of yield in avocado production with use of recycled water for irrigation. As a result, growers of salt sensitive crops are reluctant to commit to use recycled water as long as alternate supplies are available.

In developing a policy, the need for recycled water producers to exercise source control to provide a usable product should be considered. If determined to be necessary, the State Board should consider seeking support for legislation to allow the recycled water producers better control over discharges of brines from on-site regenerated water softeners to their collection systems.

In the San Diego Region we have had a history of conflict over the impacts of salts in recycled water used for irrigation on the underlying groundwaters. Most of these conflicts have been resolved with a series of Basin Plan amendments that were adopted between 1978 and the early 1990's. Some of these Basin Plan amendments eliminated beneficial use designations for groundwaters in wide areas of the Region. In other areas, where recycled water would be used for irrigation and imported water was the prevailing source of potable water, the Regional Board recognized that the impacts of use of the potable water for irrigation were far more significant than the impacts from use of the recycled water. Consequently, the Regional Board adopted amendments that provided a means for determining effluent limitations for salinity of recycled water based on the salinity of the imported water.

Nevertheless, because of the significant increment of salt added as potable water goes through a cycle of use (particularly with use of on-site regenerated water softeners as

noted above), the resulting salinity of the recycled water, and the concentration of salts in the root zone resulting from evapotranspiration, there continue to be issues with recycled water use and protection of groundwater quality in some areas of our region.

Our responses to the specific issues:

- *What should the State Water Board do to protect groundwater basins in the state from the accumulation of salt, including nitrate?*

Provide clear direction on policy and implementation. Continue to rely on the regional boards to implement that policy consistent with the applicable provisions of their basin plans.

- *To protect groundwater basins from the accumulation of salt, should the concentration of salt in recycled water used for irrigation be limited? If so, what procedures should be used to establish the limitations?*

The concentration of salt in recycled water used for irrigation should be limited for two reasons: (1) to insure the product water is suited for the broadest range of uses (see above); and, (2) to insure protection of groundwaters underlying the irrigation areas. Establishment of reasonable and protective effluent limitations might be less controversial if the regional boards were provided funding for studies to insure beneficial use designations are up-to-date

- *To limit the discharge of nitrate to groundwater, should the State Water Board require recycled water users to prepare nutrient management plans?*

Most of the recycled projects in the San Diego Region involve irrigation. We are not aware of any problems with nitrate in groundwater attributed to irrigation with recycled water. Any such requirements should be on an as-needed basis, not universally applied.

- *Should groundwater monitoring be required for recycled water irrigation projects?*

Groundwater monitoring is of limited value since responsive monitoring networks are difficult to set up and provide information on problems long after the fact. The primary monitoring should be effluent monitoring.

Groundwater Recharge Reuse Projects

- *What requirements should be placed on groundwater recharge reuse projects to protect the public from toxic constituents?*

The regional boards should be responsible for setting appropriate requirements consistent with protection of the designated beneficial uses and the applicable provisions of the regional basin plans. Primary guidance in this regard should come from DOHS.

Impoundments

- *What requirements should be placed on impoundments to prevent them from degrading underlying groundwater?*

Where infiltration from a recycled water impoundment is determined to have a significant impact on underlying groundwater it would be a relatively simply and cheap process to provide a liner – either synthetic or of natural materials. Liners might be desirable in any event as conservation measures.

Anti-degradation Policy

- *Should the State Water Board modify Resolution 68-16 (Anti-degradation Policy) to encourage water recycling or to clarify the language? Is so, what modifications should be made to the policy?*

Resolution 68-16 is intended for protection of high quality waters. Any modifications should be in the interest of clarity, rather than weakening it to accommodate water recycling. Any recycled water policy should be made consistent with Resolution 68-16.

- *Should the Water Recycling Policy define what is "maximum benefit to the people of the state" and/or what is "best practical treatment or control" for water recycling projects?*

Any definition of "maximum benefit to the people of the state" should be done within the confines of Resolution 68-16.

"Best practical treatment or control" is at best a moving target and there should be no attempt to define it in a policy. For example, in Southern California, desalting ocean waters is becoming an economically viable way to augment water supplies. It is not inconceivable that desalting recycled water will be the remedy for salinity problems in a few years.

Agency Coordination

- *The Department of Health Substances is developing regulations for groundwater recharge reuse projects. Should the State Water Board not address some issues*

related to groundwater recharge reuse projects, since they may be addressed by the Department of Health Services regulations?

We should not avoid addressing any issues because of prospective actions by DOHS. The Porter-Cologne Act is written in a way that accommodates actions by DOHS (Sections 13520 et seq.). There should be no problem in writing a policy or implementation plan that also accommodates prospective DOHS actions.

Aquifer Storage and Recovery Projects

- *Should the scope of the policy also cover aquifer storage and recovery projects?*

Yes, for projects involving storage of recycled water.

We have identified two additional issues that should be considered in development of a policy.

Marketing of Recycled Water

In the San Diego Region many million gallons of recycled water that are produced or could potentially be produced are not productively used. We attribute this to a combination of lack of aggressive marketing and unwillingness to bear the cost of distribution systems on the part of the producers. The State Board should explore this phenomenon as a part of any policy development and, if appropriate, consider including in the policy provisions for more aggressive use of its authorities with regard to waste of water.

Producer vs. User Responsibilities

In the San Diego Region we have had recent experiences that indicate some producers of recycled water would divorce themselves of any relations with the users, thus avoiding any responsibility for their recycled water once it is delivered to the users. We believe that in most circumstances the producer and user should be considered as a team for regulatory purposes. The producer markets the recycled water to the user. The user has to enter into an agreement with the producer to use the recycled water. The producer receives (usually) revenue from the user for the recycled water. Finally, the producer is in the unique position of being able to effectively oversee the use of the recycled water by the user, with the ability to terminate the supply if there is misuse.